



STUDY OF THE RHEOLOGY OF THE PASTE "UROKONIT-MR"

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Relevance: Kidney and urinary system diseases of various etiologies occupy an important place in the general structure of the population's morbidity. Along with synthetic drugs, herbal preparations are also widely used for their treatment. An extract was obtained on the basis of hairy erva grass, nettle leaves, common goldenrod, bird's foot, cornflower mouth and column, onion peel, Silica-Horsetail-equisetum arvense, birch leaves. Glycerin, wheat starch, vanillin, monodistilled fatty acids (emulsifier E 471) were used as excipients. "Uroconit-MR" paste was prepared.

The purpose of the study: to study the rheological properties of the paste "UROKONIT-MR".

Methods and techniques: The experiments were carried out on the Reotest-2 device using a cell consisting of a system of S/S₁ cylinders with a Z (constant) = 5.8.

The indicator of the device was carried out in mode 1 (at 25, 40, 55°C) at a constant temperature of different numbers. Before performing the experiment, the paste was thoroughly mixed so that there were no voids and bubbles in the paste. The paste was placed in special glass jars and thermostated at a specified temperature (25, 40, 55 °C) ± 2 °C for 2 hours. The saturated shear stress of the system $\tau = \alpha \cdot Z$, gradient velocity (γ), effective viscosity (η) and logarithm of effective viscosity were determined.

Results: The saturated shear stress ($\tau = \alpha \cdot Z$), gradient velocity (γ), effective viscosity of the "UROKONIT-MR" paste at different temperatures The results of the logarithm of (η) and effective viscosity are presented in the table.

Асбоб кўрсаткичи		Siljishi kuchlanishi , $\tau = \alpha \cdot Z$, Pa			Tezligi gradienti, γ , c ⁻¹			Effektiv qovushqoqlik , $\eta_{eff.} = \tau / \gamma$, Pa.c			Effektiv qovushqoqlik logarifmi, $\ln \eta_{eff.}$, Pa.c		
№	α	25°C	40°C	55°C	25°C	40°C	55°C	25°C	40°C	55°C	25°C	40°C	55°C
1a	8	46,4	11,6	5,8	3,0	3,0	3,0	15,4	3,8	1,9	2,73	1,33	0,64
2a	8	46,4	17,4	5,8	5,4	5,4	5,4	8,59	3,2	1,07	2,15	1,16	0,06
3a	9	52,2	17,4	5,8	9,0	9,0	9,0	5,8	1,9	0,64	1,75	0,64	-0,44
4a	10	58	23,2	11,6	16,2	16,2	16,2	3,58	1,43	0,71	1,27	0,35	-0,34
5a	13	75,4	23,2	11,6	27,0	27,0	27,0	2,79	0,85	0,42	1,02	-0,16	-0,86
6a	16	92,8	29	11,6	48,6	48,6	48,6	1,9	0,59	0,23	0,64	-0,52	-1,46
7a	20	116	29	17,4	81,0	81,0	81,0	1,4	0,35	0,21	0,33	-1,04	-1,56
8a	28	162,4	46,4	17,4	145,8	145,8	145,8	1,1	0,31	0,11	0,09	-1,17	-2,20
9a	41	237,8	75,4	23,2	243	243	243	0,97	0,31	0,09	-0,03	-1,17	-2,4
10a	54	313,2	139,2	46	437,4	437,4	437,4	0,71	0,31	0,09	-0,34	-1,17	-2,4
11a	67	388,6	243,6	69,6	729	729	729	0,53	0,33	0,09	-0,63	-1,1	-2,4
12a	84	487,2	440,8	116	1312	1312	1312	0,37	0,33	0,08	-0,99	-1,1	-2,52

As can be seen from the table, the shear stress decreases sharply with increasing temperature. This indicates that the activation energy of viscous flow decreases, and as a result, the effective viscosity also decreases. When the gradient velocity is small, the viscosity is high, and when the temperature increases from 250C to 550C, its value decreases. Therefore, the structure of the system is destroyed. As the velocity gradient increases, the viscosity decreases to a minimum, that is, the structure of the paste is completely destroyed.

Conclusions: In the process of studying the rheological properties of the paste, the saturated shear stress, gradient velocity, effective viscosity and logarithm of effective viscosity at different



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temperatures were determined. Analysis of the results obtained showed that "Uroconit-MR" is a system that does not obey Newton's law.